COMPETITION IN THE COMMUNICATIONS MARKETPLACE:

HOW TECHNOLOGY IS CHANGING THE STRUCTURE OF THE INDUSTRY

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Prepared Testimony of:

James B. Speta
Associate Professor
Northwestern University School of Law
357 East Chicago Avenue
Chicago, Illinois 60611
312.503.8470
e-mail: j-speta@northwestern.edu

Summary

We are beginning to see in the marketplace the effects of a technological convergence that began in earnest fifteen years ago, with the advent of fiber optics and digital transmission in long-haul communications networks. Today, developments in electronic switching, high-capacity transmission, and conversion and computing protocols are having three significant effects on the structure of the communications marketplace. *First*, distance is increasingly irrelevant as a matter of economics. Although capital costs still depend on distance, at the margin the transmission of data is largely insensitive to the distance it travels. Technological and legal distinctions between "local" and "long-distance" services should increasingly disappear. *Second*, transmission platforms are no longer service-specific. "Services" – be they voice or video or newer services – can be provided as applications on any data platform of sufficient bandwidth. *Third*, these advances are increasing competition in some markets that have historically seen little. Voice-over-Internet-protocol telephony is allowing cable companies to become more competitive for voice services; but the hype over VoIP hides the increasing competition that cellular telephony has brought to traditional telephone services. Similarly, assuming the announced build-outs by the telephone companies occur, *video* over IP will be the next stage of marketplace development, and will introduce a substantial new competitor in that domain. The announced mergers between SBC Communications, Inc., and AT&T Corp. and between Verizon Communications, Inc., and MCI, Inc., reflect many of the changes that technology has brought to the market structure.

Looking to the future of the communications marketplace, several imperatives appear. *First*, Congress should ensure that competition continues to develop, by creating the conditions necessary to enable new access platforms to challenge those owned by the telephone and cable

companies. Spectrum reform is of utmost importance: wireless could be a third, full-service access platform (with multiple providers in each market), but more spectrum, with flexible use rules, needs to come into the commercial market. *Second*, Congress should ensure that the Federal Communications Commission has adequate authority to preempt state laws that create barriers to or uncertainty for the development of new communications platforms, such as wireless and broadband over power line. *Third*, should it turn to a comprehensive re-write of the Communications Act, Congress should create a telecommunications law that is technologically neutral, that links regulatory authority in most regards to the principles of competition law, and that seeks to pursue social goals such as universal service through transparent and competitively balanced mechanisms.

Introduction

I am grateful for the opportunity to testify before the Committee on changes in telecommunications technology and the changes in the marketplace that technological change has wrought. My testimony here summarizes some of the work that I have been doing on broadband competition policy and on the need for legislative action to eliminate legal and economic barriers to the development of additional competition in the future.[1] The catalysts for this Hearing, the announced mergers between SBC and AT&T and between Verizon and MCI,[2] are signs of a convergent and increasingly competitive marketplace. They are not, as some have suggested, simply the reincarnation of the Bell System twenty years after its breakup. For one, these two companies have the potential to compete with one another in many markets. More importantly, technological advance is allowing cable and wireless companies to be increasingly competitive with the traditional local telephone companies in their core local access markets. To be sure, competition in these and other telecommunications markets is not the perfect competition of micro-economics textbooks, due to the substantial investments required to build a network and the need to interconnect with multiple other networks to provide services. But, with a few cautionary notes, technological convergence seems to be advancing competition.

Looking to the future, communications law can either provide a hospitable environment for continuing technological change and the introduction of new, competing platforms and

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[1] *See, e.g.*, James B. Speta, *Deregulating Telecommunications in Internet Time*, 61 Wash. & Lee L. Rev. 1063, 1069 (2004) (outlining a "comprehensive program to substantially increase the prospects for intermodal competition in local telecommunications services" and telecommunications more generally) (also available at http://ssrn.com/abstract=614523); James B. Speta, *FCC Authority To Regulate the Internet: Creating It and Limiting It*, 35 Loy. U. Chi. L.J. 15 (2003) (also available at http://ssrn.com/abstract=490122); James B. Speta, *A Common Carrier Approach To Internet Interconnection*, 54 Fed. Comm. L.J. 225 (2002) (also available at http://www.law.northwestern.edu/faculty/fulltime/Speta/Speta.html).

[2] As of the date of this written testimony, Qwest Communications International, Inc., continues to have a counter-offer pending for MCI, and the foregoing should not be read as a statement about the eventual acquisition of MCI. The two transactions have much in common from a structural marketplace perspective, however, and do not substantially affect the conclusions that I offer here.

services, or it can itself be a barrier. The first priority should be to address the barriers that currently exist to the introduction of new competitive access platforms, and, here, the first priority is spectrum reform. Congress should continue the path set by the Commercial Spectrum Enhancement Act[3] and move additional spectrum into commercial service, subject to flexible licensing or to full private ownership. Second, Congress should ensure that state and local regulation does not present a barrier to emerging technologies and services. Third, Congress should begin to address the competitive neutrality of the communications law as a whole, either through a strategy that essentially deregulates new platforms or that re-writes the Act from the bottom up.

I. Where Technological Change Has Brought Us

Technological change, in the form of microwave technology, was one of the principal drivers of the break up of the Bell System in the early 1980s.[4] That technology was rapidly replaced by fiber optics and the digitalization of the long-haul portions of the telecommunications network. On a largely independent track, the Internet protocols allowed the development of general purpose data networks, which could carry the data created by any application over any interconnected physical infrastructure.[5] Today's telecommunications market reflects these revolutions in transmission and computing power and in the techniques of data conversion and transmission.

The technological change experienced in the communications marketplace can usefully divided into three types. First, advances in electronics and in materials have greatly increased

[3] Pub. L. 108-494 (signed Dec. 23, 2004).
[4] *See generally* Joseph D. Kearney, *From the Fall of the Bell System to the Telecommunications Act: Regulation of Telecommunications under Judge Greene*, 50 Hastings L.J. 1395 (1999); Glen O. Robinson, *The Titanic Remembered: AT&T and the Changing World of Telecommunications*, 5 Yale J. on Reg. 517 (1988) (reviewing Peter Temin, The Fall of the Bell System).
[5] *See generally* Philip J. Weiser, *Law and Information Platforms*, 1 J. Telecomm. & High Tech. L. 1 (2002).

the bandwidth that carriers can deploy. Modern fiber optics, boosted by the development of dense wave division multiplex transmission electronics, can carry enormous amounts of data over long distances almost instantaneously. Similarly, digital transmission technologies in the access networks – such as cable modem service, DSL, and digital cell phone service – have increased the capacity of those systems far beyond anything imagined when cable TV or wireline and wireless telephony were initially conceived. Demand has, of course, increased exponentially as well, and the bandwidth of many access services in the United States still lags. Telephone company DSL networks are not yet fast enough to provide multi-channel video services; in South Korea, by contrast, video over DSL is common.[6] Still, this greater bandwidth begets new services.

Second, advances in internetworking have allowed communications networks to transmit services widely, as soon as the new services have been deployed. In this category, the Internet protocols are the most notable. But advances in electronic switching and the development of multiple, high-capacity interconnections among Internet backbones have also played a significant role. These technologies erode the traditional barriers between types of networks and will, over time, completely erase the barriers between "telephone networks," "cable television networks," and "Internet networks." In the core of the networks, such distinctions are almost without meaning today.

Third, the increased computing power available to users of the telecommunications networks – in their telephones, cameras, and personal computers – drives the creation of digital information and new services for the use of that information. Scanning a picture at home and e-

[6] *See generally* James B. Speta, *Policy Levers in Korean Broadband*, 5 J. Korean L. 1, 6 (2004) (noting widespread availability of 20 megabit DSL service in South Korea, by contrast to typical 1.5 megabit service in the U.S.).

mailing it to far-away relatives was but a precursor of video instant-messaging and multiplayer on-line gaming.

The consequences for market structure are significant. Costs of service have been falling, and platforms are now capable of providing multiple services. This has increased competition in several dimensions. Core network providers have substantial capacity and can serve the needs of large businesses, but they can also carry aggregated traffic from individual users and small businesses.

This technological change is also introducing competition into historically less competitive access markets – reducing the so-called last mile problem. Although VoIP has been garnering much of the attention, cellular telephony has been quietly gaining ground on traditional, wireline voice. We are reaching a point at which there are at least as many wireless telephones as there are traditional, switched access lines to the telephone network. In fact, the number of traditional telephone lines has been *falling* in recent years, from a high of just over 192 million lines in 2000 to under 180 million lines in mid-2004, while the number of wireless phones reached almost 170 million.[7] The FCC reports an estimate that 5-6% of U.S. households have dropped wireline service entirely, in favor of wireless, and another that 23% of all voice minutes are originated from wireless telephones.[8]

[7] *See* FCC, Industry Analysis and Technology Division, Local Telephone Competition: Status as of June 30, 2004, table 1 (Dec. 2004); FCC, Industry Analysis and Technology Division, Trends in Telephone Service, tables 7.1, 11.1 (May 2004). To be accurate, the number of switched wireline access lines does not reflect all voice telephone lines, as many businesses use their own premises equipment to aggregate calls from extensions (both those that have their own telephone number and those that do not) and deliver those to the telephone network over a higher capacity connection.

[8] Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, Ninth Report, FCC 04-216, at para. 212 n.575, 213 (Sept. 28, 2004).

The hype around VoIP seems justified to a large degree, as one research group has reported a 900% increase in the number of cable VoIP subscribers in just the past year,[9] with total current VoIP subscribers being estimated variously between 600,000 and 1 million.[10] As cable companies convert existing voice customers to VoIP and as the technology otherwise matures, the service will continue to grow to reach the millions by year end.[11]

The story is similar in multi-channel video services, where over the past 10 years DBS has gone from a mere 3% of the market to more than 25% of the market.[12] Here, both technological advance and regulatory change were necessary to allow DBS to carry local television channels, which was important to its ability to compete with cable service. Nevertheless, DBS's growth rate of subscribers far exceeds that of cable.[13]

These are significant changes, although competition is in many respects still emerging. Incumbent local telephone companies continue to dominate basic residential and small business voice services in most markets.[14] VoIP service, although itself competitive in price with traditional telephone service, requires the subscriber to have broadband access, at least doubling the total price. For the nearly 30 million subscribers to high-speed services,[15] VoIP may be in the same market as traditional service; for those not subscribing to high-speed services, the

[9] *See* Cable VoIP Subs Jump 900%, Light Reading, Feb. 23, 2005 (http://www.lightreading.com/document.asp?site=lightreading&doc_id=67093) (reporting data from Infonetics Research).
[10] *See, e.g.*, Ben Charny, Year in Review: VoIP's Voice Gets Stronger, Cnet.com, Jan. 5, 2005 (http://news.com.com/Year+in+review+VoIPs+voice+gets+stronger/2009-7352_3-5499915.html).
[11] *See also* Ben Charny, Cablevision Rings in 270,000 Subscribers, zdnet.com, Feb. 23, 2005 (http://news.zdnet.com/2100-1035_22-5587465.html).
[12] *See* Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming, Eleventh Annual Report, FCC 05-13, table B-1 (Feb. 4, 2005).
[13] *Id*. at para. 53.
[14] *See, e.g.*, Local Telephone Competition: Status as of June 30, 2004, *supra* note 7, at 1-4.
[15] FCC, Industry Analysis and Technology Division, Wireline Competition Bureau, High-Speed Services for Internet Access: Status as of June 30, 2004, at 1-4 (Dec. 2004).

analysis is more complex.[16] Similarly (but more speculatively), if developing services require significant increases in both up and downstream throughput to users and if the telephone companies do not quickly increase the amount of fiber optics in their local access networks, then the cable companies may not have a substantial competitor for these services in the mass market (barring the development of new access networks).[17] Even if telephone companies do upgrade their networks and otherwise keep pace with the bandwidth possible over cable networks, the residential and small business high-speed access market will most likely have only two competitors for the foreseeable future.[18]

Despite these cautionary notes, this emerging competition is cause for optimism, for two reasons: it is platform-based, and it is often intermodal. Because this emerging competition is among facilities-based carriers, it stands in sharp contrast to the type of competition envisioned by the unbundling provisions of the 1996 Act, which were premised on the idea that local telephone company networks would not be duplicated.[19] Facilities-based competition, especially where companies try different technologies to provide services, allows the market to reward efficient providers and efficient technologies.

II. Where We Should Go

[16] The 1992 Horizontal Merger Guidelines focus on an increase in price of the relevant goods of, usually, 5% (sec. 1.1). Thus, a wide disparity between the price of two products suggests that they would not be in the same market.
[17] *Compare* Nondiscrimination in the Distribution of Interactive Television Services over Cable, Notice of Inquiry, 16 FCC Rcd. 1321, ¶ 6 (2001) (discussing possibility that only cable television companies could offer the interactivity necessary for interactive television services).
[18] A second cable company provides service in only a few locations. *See generally* Eleventh Video Report, *supra* note 12, at paras. 66-70. DBS provides competing video service, but its two-way Internet service is not comparable. Some emerging wireless services, such as EVDO and WiMax, could provide another access platform. As I discuss later, this prospect justifies attention to spectrum reform.
[19] I do not share the unrelenting scorn that many have heaped on the 1996 Act's unbundling regime. *See* Speta, *Deregulating Telecommunications*, *supra* note 1, at 1151-53. But, there is no doubt that facilities-based competition is much more effective. *See* Jean-Jacques Laffont & Jean Tirole, Competition in Telecommunications 207-09 (2000) (discussing competitive difficulties of competition through unbundling, where squeezing monopoly profits out of wholesale prices decreases incentives to deploy new facilities while permitting incumbents to earn monopoly profits in their wholesale prices makes competition soft).

The regulatory issues raised by these technological advances, by developing convergence, and by expanding competition are multifarious, and they range from those traditionally linked with sector-specific regulation, such as interconnection policy, to the social policies of telecommunications regulation, such as universal service, to the broader questions of efficient tax policy, for some states and local governments today raise significant revenues by taxing some communications services. The breadth of these challenges have led many – inside and outside of government – to call for a comprehensive re-write of the nation's communications laws, and I am one of the co-chairs of a project centered at the Progress and Freedom Foundation to write a new Communications Act for the Digital Age.[20]

A. Spectrum Reform

Short of writing a new statute, however, some legal reforms should follow as a response to these changes in market structure, in order to build on the possibilities of competition. As noted above, the most likely market structure for mass market broadband IP access is one in which only the incumbent telephone companies and the cable television companies are significant players.[21] Two companies are certainly better than one, but, as a rough rule of thumb, competition is increasingly likely when the market includes at least three substantial competitors.[22]

Wireless is the leading possibility for a third platform to challenge the telephone and cable companies, but the prospects of such wireless competitors are reduced due to the lack of available spectrum for such services. Although the Commercial Spectrum Enhancement Act (CSEA) took an important step to make spectrum available for third-generation wireless services,

[20] *See* Progress and Freedom Foundation Website (http://www.pff.org/daca/).
[21] In business markets, the possibility of multiple facilities-based carriers is greater.
[22] Competition may improve as the number of market participants increases above three, but it is not the case that more competitors always increases the level of competition in a market. More importantly, this is not a law of economics, simply a rule of thumb based on experience.

more such spectrum should be made available for new data platforms. The FCC has been taking substantial, beneficial action in this regard, re-tasking certain underutilized spectrum and introducing a degree of flexible use rights,[23] but legislative action to confirm and accelerate these moves would be useful.

Indeed, wireless has, in several significant episodes, provided important competition to wireline incumbents. MCI originally used microwave transmission, the economics of which were more favorable, to challenge AT&T's long-distance monopoly. As noted above, DBS today provides the main competition to cable video services. The increasing numbers of especially young people dropping wireline service is another confirming factor, although these current wireless services are not competitors to high-speed IP-based services.

Glimpses do exist of the wireless future, with higher-speed data services from cell phone companies now coming to market, such as Verizon Wireless's 300-500 kbps service. But truly broadband services, such as WiMax or EVDO, using speeds that compete with cable and DSL services, are still a few years away.[24] More importantly, widespread deployment of these services will certainly require that additional spectrum be made available to the market. FCC Chairman Michael Powell has linked the availability of additional spectrum to the development of potentially competitive wireless broadband platforms.[25]

A significant move in the direction of spectrum reform requires two steps. First, more spectrum must be made available to commercial markets, and such spectrum can only come from

[23] Many of these actions are summarized in the FCC's Spectrum Policy Task Force Report. See FCC, Spectrum Policy Task Force Report, ET Docket No. 02-135 (2002) (available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-228542A1.pdf/).
[24] Richard Shim, WiMax To Lead Broadband Wireless Market, Cnet news.com, April 21, 2004 (http://news.com.com/2102-1305_3-5196795.html).
[25] *E.g.*, Chairman Michael K. Powell, "Broadband Migration III: New Directions in Wireless Policy, Remarks at the Silicon Flatirons Telecommunications Program, University of Colorado at Boulder, October 30, 2002 (available at http://www.fcc.gov/sptf/).

either government or existing private users.[26] The CSEA's technique of using auction proceeds to fund the relocation of government users and the purchase of more efficient equipment does provide some balance between commercial demand and the interests of government users,[27] but the Act does not provide any systematic incentives for government users to economize on spectrum or release it for commercial uses. This could be done by giving government agencies the right to monetize their spectrum by auction or, in a more extreme version, requiring them to do so. Under this approach, government agencies would have to purchase spectrum rights on the open market, much as they must do with real property.[28] Alternatively, government users could be required to include within their budgets expense amounts for the use of spectrum. This proposal has been made and well-received in the United Kingdom.[29]

Current commercial licensees should also be given the right to auction their spectrum to those who would use it for new, more valuable uses.[30] Although some have objected to this proposal on the ground that it creates a "windfall" where the licenses were originally granted without charge (or even by auction, but restricted to a limited term),[31] this objection should not stand in the way of a transition to a more efficient, market mechanism. Today, many if not most

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[26] Spectrum is theoretically unlimited, and substantial open spectrum exists at extremely short wavelengths. But not all spectrum is created equal. Some has better propagation characteristics, such as the ability to penetrate walls, and transmitters and receivers are more expensive to produce in some ranges.

[27] *See* Pub. L. No. 108-494 (amendments to 47 U.S.C. § 923(g)).

[28] *See* Ewan Kwerel & John Williams, A Proposal for a Rapid Transition to Market Allocation of Spectrum, FCC OPP Working Paper No. 38, at 28-30 (Nov. 2002).

[29] *See, e.g.*, Martin Cave, Independent Review of Spectrum Policy (2002).

[30] This proposal is made in a number of articles, in addition to the Kwerel & Williams paper (*supra* note 28) and builds on Ronald Coase's seminal article pointing out that spectrum rights could be treated equivalently to private property. Ronald Coase, *The Federal Communications Commission*, 2 J.L. & Econ. 1 (1959). Several central articles, which themselves provide entry into most of the other literature, are: Stuart N. Benjamin, *Spectrum Abundance and the Choice Between Private and Public Control*, 78 N.Y.U. L. Rev. 2007 (2003); Thomas W. Hazlett, *The Wireless Craze, The Unlimited Bandwidth Myth, The Spectrum Auction Faux Pas, and the Punchline to Ronald Coase's "Big Joke": An Essay on Airwave Allocation Policy*, 14 Harv. J.L. & Tech. 335 (2001); Gerald R. Faulhaber & David J. Farber, *Spectrum Management: Property Rights, Markets, and the Commons*, in Rethinking Rights and Regulations 193 (Lorrie Faith Cranor & Steven S. Wildman, eds. 2003); Ellen P. Goodman, *Spectrum Rights in the Telecosm To Come*, 41 San Diego L. Rev. 269 (2004).

[31] Norman Ornstein & Michael Calabrese, *A Private Windfall for Public Property*, Wash. Post, Aug. 12, 2003, at A13.

of the holders of the most valuable licensees purchased those licenses on the secondary market at prices that included the economic value of the license. Any "windfall" from the no-cost allocation of licenses was received by the original licensees who are now long gone.[32] Moreover, the statute already recognizes very strong expectations of renewal of licenses and of transfer approval and, in these two regards, the rights are already very similar to property rights.[33] Thus, any "windfall" is likely small, and an acceptable cost of moving to a market-based system of allocation.

Short of a full-blown change to spectrum allocation policy, the Congress can continue to work to free up government and commercial spectrum. In the latter regard, the Committee has previously given attention to the need to accelerate the transition to digital television, because television broadcasters' analog licenses represent some of the most desirable spectrum for new data services.[34] Current statistics show that more than 85% of all U.S. households subscribe to either satellite or DBS.[35] The transition raises important issues, but the value of moving that spectrum to other uses must be weighed against any transition costs suffered by the relatively small number of households receiving terrestrial service. Moreover, the cost of digital television tuners is falling rapidly, and is now below the $200 mark even for HDTV functionality.

It is my sense that new spectrum rights ought to be privatized, to allow owners instead of government to determine the most appropriate and efficient uses. At a minimum, licenses should permit the maximum amount of flexibility in use. Some spectrum should be dedicated to

[32] Current licensees who would sell their licenses as property would receive an increase in value if those licenses had greater flexibility of use, but trying to recapture that value is probably not worth the transaction and delay costs involved.
[33] *See generally* Howard A. Shelanski & Peter W. Huber, *Administrative Creation of Property Rights to Radio Spectrum*, 41 J.L. & Econ. 581 (1998); Douglas W. Webbink, *Radio Licenses and Frequency Spectrum use Property Rights*, 9 Comm. & L. 3 (1987).
[34] Most recently, the Subcommittee on Telecommunications and the Internet held a hearing on February 17, 2005, entitled "The Role of Technology in Achieving a Hard Deadline for the DTV Transition."
[35] Eleventh Video Report, *supra* note 12, at para. 8.

unlicensed uses, such as local networking and other low-power services that have proved recently successful. But property rights in spectrum have the advantage that a single provider can more easily internalize all of the coordination problems that a new service may entail, such as equipment standards, operating protocols, and interconnection with other networks. Similarly, a spectrum owner captures all of the gains from monitoring spectrum use, increasing the efficiency of equipment, and eliminating interference.[36]

B. Reducing Legal Uncertainty

Short of re-writing the Communications Act from top to bottom (on which more below), Congress could make several salutary changes that would have the effect of decreasing the barriers to entry for new services. The 1996 Act forbade state and local laws that prohibited (or had the effect of prohibiting) the provision of telecommunications services by any entity.[37] But, to ensure that new services are not subject to the heavy-handed utility regulation of Title II of the Communications Act (which governs telecommunications services), the FCC has generally characterized newly emerging data services as "information services."[38] In so doing, the FCC exercises its so-called "ancillary" authority under Title I of the Act to prevent states and localities from themselves placing burdensome regulations on these new services,[39] but the scope of the FCC's authority to do so is uncertain and subject to attack.[40]

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[36] *See generally* Speta, *Deregulating Telecommunications, supra* note 1, at 1118-21 (arguing that the need to develop intermodal competition from wireless to wireline platforms suggests a property rights approach to spectrum reform); Farber & Faulhaber, *supra* note 30.

[37] *See* 47 U.S.C. § 253.

[38] Its ability to continue to do so will be at issue in the Supreme Court's consideration of the *Brand X* case, which is scheduled to be argued later this Term. *See* Inquiry Concerning High-Speed Access to the Internet over Cable and other Facilities, Declaratory Ruling and Notice of Proposed Rulemaking, 18 FCC Rcd. 4798 (2002) (classifying cable modem services as information services), *rev'd in part*, Brand X Internet Servs. v. FCC, 345 F.3d 1120 (9th Cir. 2003) (adhering to prior opinion that such services were telecommunications services), *cert. granted.*

[39] Most recently, the FCC has issued an order preempted state and local regulation of many aspects of VoIP. *See* In the Matter of Vonage Holdings Corp. Petition for a Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission, Memorandum Opinion and Order, FCC 04-267 (Nov. 12, 2004).

[40] *See generally* Speta, *FCC Authority To Regulate the Internet*, *supra* note 1. *But see* Philip J. Weiser, *Toward a Next Generation Regulatory Strategy*, 35 Loy. U. Chi. L.J. 41, 66 (2003) (suggesting that FCC has adequate Title I

Congress should confirm the FCC's authority to preempt state and local regulation of any emerging, facilities-based two-way data network, to decrease the barriers to entry for such services. To be sure, some networks will need to be regulated, to ensure the meeting of non-economic goals such as 911 service and law enforcement intercepts. But, as has been the case with VoIP, the FCC should have the power to move toward these goals in a manner that does not compromise the initial deployment of the services. Universal service (and other state and local revenue needs) will also require consideration, but a continuing patchwork of state and local regulation of telecommunications services can create a hurdle to entry of new services.

Apart from confirming FCC authority, Congress should also consider a new category of federal regulation for new, two-way, facilities-based data networks. Such a move would not require eliminating the current service categories of the Communications Act, which continue to serve some important purposes. A new category of services – what Chairman Powell has called an IP-migration model – would allow the market, if deploying new facilities, to move itself into a much more unregulated status.

C. A New Act?

Of course, the most intellectually appealing approach would be to draft a new Communications Act from the ground up. There is a widespread consensus that the current service-based categories of the Communications Act, which provide significantly different levels and kinds of regulation based on service classifications that are tied to legacy status, no longer match the converged data platforms that technological change has made possible. The European Union has recently adopted a new regulatory structure that attempts to address all "electronic

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authority to address new services, and advocating a common law approach, informed by antitrust principles, to regulation).

communications,"[41] and commentators have offered a number of other models, ranging from a regulatory scheme built on the technical "layers" of the network[42] to the use of a common-law, but antitrust-principles grounded, case-by-case approach to regulation.[43]

Because our work on this continues and given the scope of this Hearing, I will only outline a few of the principles that should govern consideration of a new telecommunications statute.[44] First, telecommunications law – as an independent body of law, superintended by some expert regulator – should continue. An expert regulator will address changing technology better than generalist antitrust courts. More importantly, telecommunications markets present problems that are beyond the traditional scope of competition law. For example, even where the market for telecommunications services is structurally competitive, each individual carrier will have a "terminating monopoly" on services delivered from other carriers or networks to that individual carrier's customers. As two leading economists have shown, even competitive carriers will have the incentive to raise off-network termination charges, resulting in inefficient multiple marginalization.[45] Price-setting regulation, or mandatory bill-and-keep rules, can increase efficiency.

Moreover, government may wish to assure that network competition does not eliminate fundamental interconnection. Two-way telecommunications networks, such as telephone,

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[41] The centerpiece of this effort is Directive 2002/21 of March 7, 2002, on a Common Regulatory Framework for Electronic Communications Networks and Services, O.J. 2002 L108/33 ("Framework Directive"). *See generally* J. Scott Marcus, *The Potential Relevance to the United States of the European Union's Newly Adopted Regulatory Framework for Telecommunications*, in Rethinking Rights and Regulations 193 (Lorrie Faith Cranor & Steven S. Wildman, eds. 2003); James B. Speta, *Rewriting U.S. Telecommunications Law with an Eye on Europe*, in Connecting Societies and Markets (forthcoming 2005).

[42] *E.g.*, Richard Whitt, A Horizontal Leap Forward: Formulating a New Communications Public Policy Framework Based on the Network Layers Model (MCI Layers Paper) http://global.mci.com/about/publicpolicy/presentations/horizontallayerswhitepaper.pdf.

[43] *See* Weiser, *supra* note 40.

[44] I have discussed most of these matters in greater depth in Speta, *Deregulating Telecommunications*, *supra* note 1.

[45] Jean-Jacques Laffont & Jean Tirole, Competition in Telecommunications 184 (2001).

Internet, and integrated data networks, exhibit direct network effects.[46] If network competition is simultaneous, with numerous relatively small communications networks competing against one another, then each network will have a strong incentive to interconnect with the others, ensuring that all consumers can reach one another as well as reaching all services and content available on other networks.[47] But, if competition among networks is monopolistic or serial, then networks effects suggests that denial of interconnection may be a strategic tool in inter-network competition.[48] Regulation to maintain interconnection may increase total welfare (or serve non-economic goals, such as maintaining a single community of speakers and access to information), even if it cabins the dimensions on which competition can occur.[49] In particular, mandatory interconnection rules seem valuable at the physical and logical layers of communications networks – so that competition is channeled to the quality of service and price dimensions and away from the possibility of fragmenting an integrated communications network. Although such interconnection could potentially entrench certain kinds of networks, the social and economic benefits of maintaining an interoperable network probably outweigh the risks of entrenchment.

Second, apart from maintaining fundamental interconnection, regulatory action under a new telecommunications law should be keyed to an affirmative finding of market power in a relevant market. The principles of antitrust law and economics provide a strong guide to reduce

[46] Such effects may be, in the language of network economics, either direct or indirect. A direct network effect is where the good itself is a connectivity good, such that value derives from the number of others that one can connect with – such as telephony or fax machines. Indirect network effects prevail in markets characterized by a hardware and a software good – such as computer operating systems and software applications or video tape players and prerecorded movies – such that greater numbers of consumers purchasing the hardware good drives demand for a wider variety of software goods, which variety in turn makes the hardware good itself more valuable. *See generally* Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 Am. Econ. Rev. 424, 426-27 (1985). Some network goods, such as the Internet, exhibit both characteristics.

[47] *See generally id*. at 190.

[48] *See* Stanley Besen & Joseph Farrell, *Choosing How To Compete: Strategies and Tactics in Standardization*, 8 J. Econ. Persp. 117, 119 (1994).

[49] *See generally id*.; James B. Speta, *Handicapping the Race for the Last Mile?: A Critique of Open Access Rules for Broadband Platforms*, 17 Yale J. on Reg. 39, 81-85 (2000).

the burdens of regulation generally, by ensuring that regulation responds to a consumer welfare interest and not merely to the interests of other competitors. As Frank Easterbrook has noted in the antitrust context, "the economic system corrects monopoly more readily than it corrects [regulatory] errors,"[50] and legislatures, agencies, and courts should be circumspect about intervening in markets without a showing of market power in need of correction.

Third, a new statute ought to treat all newly-deployed, emerging data networks similarly, without regard to the legacy of their providers. Although the 1996 Act embraced competition, it did relatively little to address convergence. A new Communications Act would eliminate regulatory separation and competitively unbalanced treatment of identical services offered using different technologies and focus on the economic realities of the services.

Fourth, social goals regulation – and especially universal service funding – should be applied broadly (in the sense of subjecting services to similar burdens), but should not be the basis for maintain regulatory separation or public utility regulation.[51] It is necessary to reiterate that the most economically efficient manner of providing universal service is through the general income tax, and not through a specific tax on telecommunications services.[52] But if sector-specific funding is necessary, that funding should be spread more widely. Currently, the universal service charge on interstate telecommunications is just over 10%, and the total tax burden on telecommunications services (but not Internet and not VoIP) in some areas reaches 25%. Given that telecommunications technology is itself an input into many other processes and

[50] Frank Easterbrook, *The Limits of Antitrust*, 63 Tex. L. Rev. 1, 15 (1984).
[51] It will be necessary to reevaluate the scope of the universal service commitment, and especially to consider whether Internet or video services should be brought further within its ambit. Those matters are beyond the scope of this paper. *See generally* Speta, *Deregulating Telecommunications*, *supra* note 1, at 1148-51.
[52] *See, e.g.*, Gregory Rosston & Bradley S. Wimmer, *The ABCs of Universal Service: Arbitrage, Big Bucks, and Competition*, 50 Hastings L.J. 1585, 1606 (1999).

increases their overall productivity, heavily taxing telecommunications is counterproductive. A statute designed to treat services equally would spread taxes in a competitively neutral manner.[53]

Conclusion

Technological advance is continuing to restructure telecommunications markets. The transition to IP networks and IP services effects several significant changes: platforms become service independent, distance diminishes in importance, and service competition can increase. In consumer markets, traditional cable and telephone companies will likely go head-to-head with a similar package of services. Spectrum reform is needed to enable a third competitive platform, with potentially multiple competitors, to challenge these two wireline platforms. And legislation should begin to eliminate utility regulation, to create a level playing field for these new data-centric services.

[53] This may mean taxing access – whether that access is voice, Internet, or other interactive service – or it might mean pegging the tax to the use of public telephone numbers. Although these would change the general notion that IP-based services should not be taxed at all, leveling the playing field requires addressing tax policy as well.

JAMES B. SPETA

Northwestern University School of Law
357 East Chicago Avenue
Chicago, Illinois 60611
Phone: (312) 503-8470
E-Mail: j-speta@northwestern.edu

EDUCATION

The University of Michigan, Ann Arbor, Michigan.
J.D., magna cum laude, 1991.
Editor-in-Chief, Michigan Law Review (Vol. 89, 1990-1991).
B.A., with highest distinction, 1988 (major: economics).

EXPERIENCE

Associate Professor, Northwestern University School of Law (Aug. 2002-present); *Assistant Professor* (Aug. 1999-Aug. 2002). Principal research areas: telecommunications law, Internet regulation, antitrust and regulation, and network industry regulation.

Visiting Assistant Professor, Northwestern University School of Law (Aug. 1998-Aug. 1999).

Associate, Sidley, Austin, Brown & Wood, Chicago, Illinois (Aug. 1993-Aug. 1998). Practice concentrated in telecommunications matters, appellate and complex civil litigation, antitrust, and contested corporate transactions.

Visiting Assistant Professor, The University of Michigan Law School (Aug. 1992-May 1993). Taught Federal Appellate Practice (issues of federal jurisdiction and administrative law) and Contemporary First Amendment Issues.

Law Clerk, The Honorable Harry T. Edwards, United States Court of Appeals for the District of Columbia Circuit (Aug. 1991-Aug. 1992).

PUBLICATIONS

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GRANTS

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PANEL PRESENTATIONS & PAPERS

The Political Economy of Spectrum Reform, Silicon Flatirons, University of Colorado, February 2005.

Commentary on Broadcasting Convergence in the U.S. and Korea, SNU-Berkeley Centers for Law and Technology, Annual Conference, January 2005.

Options and Prospects for Voice over Internet Protocol Regulation, Presentation, Federal Communications Bar Association, October 2004.

Comparative Law and Economics of U.S. and European Telecommunications Reform, Telecommunications Policy Research Conference (Washington, D.C.), October 2004.

The FCC's Jurisdiction To Regulate the Internet, Cardozo Law School, September 2004.

Rewriting U.S. Telecommunications Law with an Eye on Europe, International Telecommunications Society, Berlin, Germany, September 2004.

Current U.S. Broadband Policy and Prospects for Deregulation, Presentations to Korean Ministry of Information and Communications and Korean Information Strategy Development Institute, June 2004.

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The Article I Authority of the FCC, Loyola University of Chicago, February 2003.

Legal Rules To Implement Dynamic Spectrum Sharing, Panel Presentation, Carnegie Mellon University, Insites Program, February 2002.

The Antitrust Regulation of Information Platforms, Panel Presentation and Paper, Silicon Flatirons, University of Colorado, January 2002.

Vertical Exclusivity in Third-Generation Wireless, Paper and Presentation, Pacific Telecommunications Council, Seoul, South Korea, June 2001.

Corporate Control and Industry Structure in Global Communications, London Business School, Paper Discussant, May 2001.

Cable Internet Regulation and Market Incentives for Openness, Stanford Center for Internet and Society, Panel Presentation, December 2000.

A Common Carrier Approach to Internet Interconnection, Paper and Presentation, Telecommunications Policy Research Conference, Washington, D.C., September 23, 2000.

Open Source and Open Access, Panel Presentation, The E-Business Transformation, Brookings Institution and Department of Commerce, September 2000.

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Mandatory Resale Rules in Long Distance Markets: Regulation Searching for an (Economic) Justification, Working Paper and Presentation, Telecommunications Policy Research Conference, Washington, D.C., September 1999.

TESTIMONY AND AGENCY SUBMISSIONS

Testimony, "Competition in the Communications Marketplace: How Technology Is Changing the Structure of the Industry," House Energy & Commerce Committee, March 2, 2005.

Comments, Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities, FCC GN Docket 00-185 (Jan. 19, 2001) [filed on behalf of AT&T Corp.].

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Ex Parte Comments, In the Matter of the Merger of AT&T Corp. and MediaOne, Submitted to the Federal Communications Commission (Dec. 22, 1999) (addressing whether FCC should condition approval of merger on open access conditions).

OTHER PROFESSIONAL ACTIVITIES

Co-Chair, Working Group on "New Regulatory Framework," The Digital Age Communications Act Project, Progress & Freedom Foundation (reports and draft legislation expected summer 2005).

Board of Advisors, Institute for Regulatory Law & Economics, 2003-present.

Board of Legal Experts, Carnegie Mellon University Insites Program (Law and Technology), 2002-present.

Admitted to Illinois, Seventh Circuit, and Northern and Central Districts of Illinois Bars. Active membership.

Expert Declaration for AT&T Corp. in Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities, FCC GN Docket 00-185 (Jan. 19, 2001).

United States Court of Appeals for Seventh Circuit. Accepted appointments in two civil cases on request of Circuit Executive in 1999 and 2000. One continuing matter.

Occasional appellate and antitrust consulting. Clients (either directly or indirectly through a law firm) have included Citgo Petroleum Corp., Union Carbide Corp., and PacTiv Corp.

TEACHING

2004-2005:	Administrative Law (Spring), Telecommunications & Internet Policy (Spring)
2003-2004:	Corporations (Fall), Business Associations (Korea & Summer terms), Telecommunications & Internet Policy (Spring)
2002-2003:	Torts (Fall), Administrative Law (Spring), Telecommunications (Spring), Intellectual Property (Korea)
2001-2002:	Intellectual Property (Spring); Telecommunications (Spring)
2000-2001:	Torts (Fall), Administrative Law (Fall), Telecommunications (Spring)
1999-2000:	Torts (Fall), Telecommunications (Spring)
1998-1999:	Business Associations (Fall and Summer), Electronic Communications Law (Spring)

Teaching Awards: Best Teacher of a First-Year Class (1999-2000) (student-voted award)
Childres Award for Teaching Excellence (2000-2001) (student-voted award)
Dean's Teaching Award (2002-2003)